

Avon Valley Floral

Falmouth, Nova Scotia, Canada

2006 Case Study

This major greenhouse operation, incorporated in 1942 includes eight acres of active greenhouse space growing a wide range of plants. It is a major employer in the Falmouth area employing 70 to 100 people at various times during the year. By necessity the heating plant operates 24 hours per day, seven days per week during the heating season. In the fall of 2005, Avon Floral undertook an Opportunity Assessment as part of the Eco-Efficiency Program for Manufacturers. Based on the results of the Opportunity Assessment, the company proceeded with an Implementation Assessment. The assessments were conducted by Neill and Gunter (Nova Scotia) Limited. This two-step incentive program is designed to identify cost efficient opportunities within small and medium sized manufacturers (SMEs) and demonstrate the economic benefits of “greening” industry.

The Process

The operation includes eight active greenhouses covered with glass panels or double film plastic. These greenhouses are heated by steam produced by a 1000 hp wood fired boiler and supplemented by two heavy fuel oil boilers during periods of peak demand. Electrical energy is used for lighting, ventilation, refrigeration in the cold storage area and for auxiliaries required in the boiler plant and office areas. Significant quantities of water are consumed in the operation.



The Assessment

The Opportunity Assessment benchmarked Avon Floral's water and energy consumption against industry norms and identified several potential opportunities for improvement including; installing and/or repairing thermal curtains, installing an economizer on the wood fired boiler, installing a thermal storage system to offset demand during peak heating periods, increasing the portion of steam generated from wood and upgrading lighting systems. The following major opportunities became the subjects of detailed analysis in the Implementation Assessment:

1. installing an economizer on the wood fired boiler
2. installing a thermal storage system
3. installing a new wood fired boiler

Assessment Results

The assessment verified the technical feasibility of the projects and estimated combined savings in energy costs of \$229,500 per year. The implementation plan equipment and installation costs for the economizer project yielded a payback period of five years. Unfortunately the payback periods for the other two projects were in excess of six years under current conditions.

In summary, the economizer project, and other projects undertaken and planned, including thermal curtains, steam line insulation and lighting upgrades, it is estimated that the following savings will be achieved:

Potential energy savings	5999 GJ/yr	\$129,600/yr
Reduction in GHG Emissions	513 tonnes/yr	

Richard Chapman, project coordinator for Avon Floral, said, "The assessment was very timely in helping us to identify and quantify several options for saving energy which is the major cost item for our business. Energy efficiency is critical to our competitiveness and the program provided technical expertise to help us tackle an issue we considered to be critical. The program was easy to use and both the consultants and program staff were focused on helping us improve our operations."

The Eco-Efficiency Program for Manufacturers is working for Avon Valley Floral. It has identified significant opportunities for reducing environmental impact while at the same time improving the bottom line for the company.

The Eco-Efficiency Program for Manufacturers is aimed at small and medium sized manufacturers (SMEs) in Nova Scotia and is designed to increase awareness for pollution prevention and eco-efficiency and to stimulate implementation of cost-efficient opportunities. The cost of hiring a qualified consultant to identify eco-efficiency and pollution prevention opportunities is offset by the program. There is a cost shared arrangement with the program contributing 75% and the participating company contributing the 25% balance. The program is also intended to help build capacity in the consulting community throughout the province.

Cooperating agencies and program sponsors for the program have been Environment Canada (Atlantic Region), Atlantic Canada Opportunities Agency, Natural Resources Canada, Nova Scotia Department of Environment, Nova Scotia Economic Development, Nova Scotia Department of Energy and Nova Scotia Power Inc. The program is delivered by Dalhousie University's Eco-Efficiency Centre - a university - based extension service established to enhance the efficiency of individual businesses while encouraging the cooperative and collective efforts of groups of companies.

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